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ASSOCIATION OF TIME-TO-LEVODOPA WITH INITIAL PARKINSONIAN MEDICATION: A RETROSPECTIVE COHORT STUDY

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OBJECTIVES

To determine the initial distribution of medication in patients with de novo Parkinson's disease (PD), to estimate the share of patients who not receive a recommended initial therapy according to current German guidelines, and to compare the time-to-levodopa.

METHODS

We used the IMS® Disease Analyzer database (IMS HEALTH), containing basic medical data from ~20 million patients in Germany. The primary outcome was the therapy change rate from initial treatment to levodopa estimated by Kaplan-Meier analyses. A Cox proportional hazards model was used to estimate the relationship between time-to-levodopa and confounders for a maximum follow-up of 10 years (between January 2002 and December 2011). Adjusted hazard ratios (HR) and 95% confidence intervals (CI) are presented for change-to-levodopa rate.

RESULTS

A representative sample of de-novo patients diagnosed with PD was drawn (n=108,885). 71.8% of patients received levodopa as a first line treatment. 29,708 patients started with other anti-PD substances: 13.3% with dopamine agonists (DA), 3.6% with amantadine, 5.9% with anticholinergics, and 0.8% with monoamine oxidase B (MAO-B) inhibitors. Therefore, the proportion of patients who not receive a recommended initial therapy according to current German guidelines was ~10%. 29.0% of patients not starting with levodopa switched to levodopa within 5 years. After 5 years, more than 80% of PD patients using anticholinergics as their initial treatment remained levodopa-free. MAOB-inhibitors and DAs showed significantly lower proportions of levodopa-free patients after 5 years (35% and 55%, respectively).

Compared to MAO-B inhibitors, the HR for switching to levodopa was 0.38 (CI 0.34-0.43; p<0.001) for anticholinergics and 0.85 (CI 0.75-0.97; p=0.017) for nonergot DA.

CONCLUSIONS

Surprisingly, initial treatment with anticholinergics is correlated with the longest delay of levodopa treatment among all monotherapies. Our results suggest re-evaluating the comparative effectiveness of all initial PD treatments in head-tohead comparisons.

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If you would like to read any of the studies in its entirety, please, contact us to obtain the full version of a publication. Also, our research director is at your disposal if you have any further questions.

Thank you for your interest!

